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| EXAMINER |
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GREECE, JAMES R

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| ART UNIT | PAPER NUMBER |
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2873

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12/15/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/564,883 | Applicant(s) LISSOTSCHENKO ET AL. | |
| | Examiner JAMES R. GREECE | Art Unit 2873 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 15-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/17/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/8/2006 & 1/17/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

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Election/Restrictions

1. No claim is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8/25/2008.
2. Applicant's election without traverse of claims 2-12 and 15-21 in the reply filed on 8/25/2008 is acknowledged.

Drawings

3. There are no objections to the applicant's drawings at this time.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

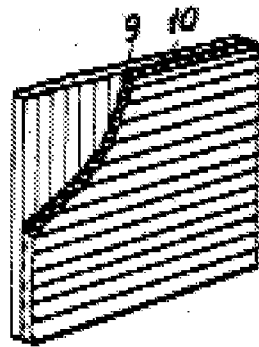
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-9, 15, 17-18 are 20-21 rejected under 35 U.S.C. 102(b) as being anticipated by Gabor (USPAT 2,351,034).

Re claim 1, Gabor teaches for example in fig. 7, A process for producing an optical beam forming device which has a plurality of lens means which are arranged offset to one another in at least one direction on at least one optically functional interface, (see at least figure 7) characterized in that wherein the beam forming device is assembled from at least two optically functional modules each of the at least two optically functional modules on a first optically functional interface (see at least numerals 9 and 10) having at least one first cylinder lens means

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and on the second optically functional interface which is essentially opposite the first at least one second cylinder lens means with a cylinder axis which is aligned essentially perpendicular to the cylinder axis of the first cylinder lens means which is located on the first interface (see at least numerals 9 and 10).

**FIG. 7**

Re claim 2, Gabor teaches for example in fig. 7, wherein at least two optically functional modules are assembled such that the cylinder axes of the first cylinder lens means are oriented at least partially parallel to one another on a first optically functional interface of the beam forming device see at least numerals 9 and 10).

Re claim 3, Gabor teaches for example in fig. 7, wherein at least two optically functional modules are assembled such that the cylinder axes of the second cylinder lens means are oriented at least partially parallel to one another on a second optically functional interface of the beam forming device (See at least numerals 9 and 10)

Re claim 4, Gabor teaches for example in fig. 7, wherein at least two optically functional modules of at least one cylinder lens array with a plurality of first cylinder lens means on the first

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side and a plurality of second cylinder lens means on a second side opposite the first are cut (for details see at least figures 9 and 10).

Re claim 5, Gabor teaches for example in fig. 7, wherein the cylinder lens array is cut by planes which are oriented essentially parallel to the lengthwise axes of the first cylinder lens means (for details see at least numerals 9 and 10).

Re claim 6, Gabor teaches for example in fig. 7, wherein the cylinder lens array is cut by planes which extend through the joint edges of adjacent first cylinder lens means and which orthogonally intersect the cylinder axes of the second cylinder lens means (for details see at least numerals 9 and 10).

Re claim 7, Gabor teaches for example in fig. 7, wherein lengthwise sides of the optically functional modules are contoured at least in sections by segments being cut out of the lengthwise sides (for details see at least numerals 9 and 10).

Re claim 8, Gabor teaches for example in fig. 7, wherein the lengthwise sides are contoured at least in sections such that the joining of at least two optically functional modules takes place such that the second cylinder lens means are located offset to one another at least in one direction (for details see at least numerals 9 and 10).

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Re claim 9, Gabor teaches for example in fig. 7, wherein segments of the same size are cut out of the lengthwise sides of the optically functional modules (for details see at least numerals 9 and 10).

Re claim 15, Gabor teaches for example in fig. 7, wherein the optically functional modules are cemented to one another at least in sections (see at least numerals 9 and 10)

Re claim 17, Gabor teaches for example in fig. 7, which has a plurality of lens means which are arranged offset to one another in at least one direction on at least one optically functional interface (for details see at least numerals 9 and 10).

Re claim 18, Gabor teaches for example in fig. 7, wherein the beam forming device comprises cylinder lens means which are shaped convexly and/or concavely and which have spherical and/or aspherical jacket surfaces (for details see at least numerals 9 and 10).

Re claim 20, Gabor teaches for example in fig. 7, wherein the outer contour of the beam forming device is essentially round, rectangular, square or hexagonal (see at least numerals 9 and 10).

Re claim 21, Gabor teaches for example in fig. 7, wherein the beam forming device consists preferably of glass, especially of silica glass, or of plastic (for details see at least page 5 left column lines 45-52)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 10-11 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Gabor (USPAT 2,351,034) as applied to claim 1 above, and further in view of Dubin (USPAT 6,278,546).

Re claim 10, supra claim 1. Gabor fails to explicitly teach wherein segments with cross sections which have an essentially triangular outline are cut out of the lengthwise sides of the optically functional modules

However, within the same field of endeavor, Dubin teaches for example in fig. 4b, wherein segments with cross sections which have an essentially triangular outline are cut out of the lengthwise sides of the optically functional modules

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Gabor to include a triangular structure as taught by Dubin for its cylindrical lenses for the predictable result of providing additional refractive properties.

Re claim 11, supra claim1. Gabor fails to explicitly teach wherein the optically functional modules are joined in such a way that on the second interface of the beam forming device an essentially hexagonally packed arrangement of the second cylinder lens means is formed.

However, within the same field of endeavor, Dubin teaches for example in fig. 4b, wherein the optically functional modules are joined in such a way that on the second interface of the beam forming device an essentially hexagonally packed arrangement of the second cylinder lens means is formed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Gabor to include a hexagonal structure as taught by Dubin for its cylindrical lenses for the predictable result of providing additional refractive properties.

Re claim 19, supra claim1. Gabor fails to explicitly teach wherein the lens means are arranged essentially hexagonally tightly packed on at least one optically functional interface of the beam forming device.

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However, within the same field of endeavor, Dubin teaches for example in fig. 4b, wherein the lens means are arranged essentially hexagonally tightly packed on at least one optically functional interface of the beam forming device.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Gabor to include a hexagonal structure as taught by Dubin for its cylindrical lenses for the predictable result of providing additional refractive properties.

9. Claims 12, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gabor (USPAT 2,351,034).

Re claim 12, supra claim 1. Furthermore Gabor fails to explicitly teach wherein the optically functional modules are cut out of the cylinder lens array and contoured by means of ultrasound.

However the examiner takes official notice to the fact that ultrasound is a known method of contouring materials in the art and would have been obvious to one having ordinary skill at the time the invention was made. It would also belong to a specific and limited group of options from which one would have to choose to complete such a process of contouring. It would therefore have been within routine experiment and further obvious to try contouring the lenses using ultrasound since the number of options are well known and limited. One would be motivated to utilize ultrasound for its cleaner less bulky process.

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Re claim 16, supra claim 1. Furthermore Gabor fails to wherein the optically functional modules are soldered to one another at least in sections.

However the examiner takes official notice to the fact that soldering is a known method of adhering materials in the art and would have been obvious to one having ordinary skill at the time the invention was made. It would also belong to a specific and limited group of options from which one would have to choose to complete such a process of adhering. It would therefore have been within routine experiment and further obvious to try adhering the modules using soldering techniques since the number of options are well known and limited. One would be motivated to utilize soldering for its binding strength.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Clearly the term module is not explicitly defined in the text and distinguished from a number of types of modules and further the language with which the claims have been presented is awkward. It is clear as to the applicant's intent however the claims do not express this intent fully.

12. The term "essentially" in claim 10, 11, 19 is a relative term which renders the claim indefinite. The term "essentially" is not defined by the claim, the specification does not provide

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a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The examiner believes that the term essentially is a relative term is the shape hexagonal or is it not, that is the question. The claim cannot utilize essentially to cover both. Clearly the specification shows a hexagonal structure. The claim does not. There is no manner in which to ascertain the degree of triangularity or hexagonality. Therefore the term essentially obscures the meaning and clarity of the claim.

13. Claims 1-4, 7-12, 15-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

14. The term module is not explicitly defined in the specification and further in the art the term optical module holds a number of specific definitions none of which appear to conform to the applicant's drawings. The applicant's drawing shows the lens array components to be considered modules however this definition appears to contradict the definition of an optical module. Therefore the applicant must clarify terminology in a future amendment.

Cited Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Nadeau (USPAT 3,151,520) is cited to show a lens system in the art.
- b. Lee et al (USPUB 2003/0161047) is cited to show a lens system in the art.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES R. GREECE whose telephone number is (571)272-3711. The examiner can normally be reached on M-Th 7:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. R. G./
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Examiner, Art Unit 2873
12/8/2008

/Ricky L. Mack/
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